

A NEARCTIC RACE OF *SYNGRAPHA MICROGAMMA*
HÜBNER, WITH REMARKS ON THE STATUS
OF *MONTANA* PACKARD (LEPIDOPTERA:
PHALAENIDAE).

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Examination of both male and female genitalia indicates that *montana* Pack. is a species distinct from *Syngrapha microgammata* of Europe and North America. Packard described *montana* from the White Mountains, N. H. (Guide to the Study of Insects, 313, 1874), probably Mt. Washington, but no further specimens are known to have been taken in that area until 1951, when Mr. Donald J. Lennox of Whitefield, N. H. captured a female on the Bray Hill Bog near the town of Jefferson, and 1952 when I captured another at 5000 feet on the slopes of Mt. Jefferson, just below the Monticello Lawn on the Caps Ridge Trail. The lack of topotypical material, together with the apparent loss of Packard's type, made the identity of *montana* somewhat uncertain, although it was correctly assumed by Dr. J. McDunnough to be the same as the small dark species from the vicinity of Ottawa and from the Gaspé (McDunnough, Revision of the North American Genera and Species of the Phalaenid Subfamily Plusiinae, Memoirs S. Cal. Ac. Sci., II, No. 2, 1944). The two New Hampshire specimens before me, one from a bog lying in the bottom of the Jefferson Valley and the other from above timber-line a few miles away, agree perfectly, and are perhaps the closest thing to topotypical material seen since Packard's type. We may safely assume that these New Hampshire specimens represent the same species and the same population as the specimen Packard described.

Montana is rather a small and intensely colored species expanding from 22 to 26 mm. The silver mark on the primaries is formed a little differently from that of *microgammata*, and the t.p. line has a more pronounced inward curve below the cell. Underneath, the discal spots on both wings tend to be more distinct in *montana*, and the dark areas show through more strongly. Figures 4 and 5 illustrate the two New Hampshire specimens, and figure 6 is a specimen from Nova Scotia—the only record for that area. As well as the specimens known from these localities, from the Mer Bleue near Ottawa and from the mountainous interior of the Gaspé Peninsula, there are examples of *montana* in the Canadian National Collection from Harlan, Sask. where it apparently flies in company with the

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nearctic race of *microgamma*. It normally flies by day, but the single Nova Scotian example was taken in a light trap. *Syngrapha montana* is a rare moth in collections.

Compared with *microgamma*, the male genitalia of *montana* are smaller, with differences in the shape of the valves, juxta and uncus. The pointed process of the harpe is somewhat shorter and stouter, just barely overlapping the costal margin, and the pointed apical process of the juxta is lacking. The vesica bears a huge curved and tapering apical spine with a broadened base, much larger than that of *microgamma*, but the minute one found in the bulbous end



Fig. 1. *Syngrapha microgamma* Hbn. ♂. Tilsit, Germany, late June, 1942. Fig. 2. *S. m. nearctica* new race. Holotype. Fig. 3. *S. m. nearctica* new race. Allotype. Fig. 4. *S. montana* Pack. ♀. Mt. Jefferson, N. H., 5000', July 8, 1952. Fig. 5. *S. montana* Pack. ♀. Bray Hill Bog, near Jefferson, N. H., June 10, 1951 (D. J. Leimox). Fig. 6. *S. montana* Pack. ♀. Glenholme, Colchester Co., N. S., June 19, 1953 (Walter Harrington). Figures natural size. Photographs by the author.

of the aedeagus appears to be similar. Figure 9 depicts the male genitalia of *montana*.

In the female genitalia the ostium of *montana* is of entirely different and much simpler form. The ductus bursae is considerably longer, entering the bursa lower down, and lacks the curves and the swollen portion conspicuous in *microgamma*. The smoothly rounded and spiculate apical end of the bursa where the ductus seminalis enters is more pronounced because of its increased length beyond the adjoining ductus bursae. The female genitalia of *montana* are shown in figure 10, but I suspect that in this specimen the

bursa was somewhat twisted out of its normal position. Presumably it should lie with the apical end and ductus seminalis on the right side, as in *microgamma*.

A series of these yellow-winged *Syngraphas* from Halifax Co., Nova Scotia did not agree well with *montana*, and further investigation revealed a very close relationship to the true *microgamma* of Europe. Both the male and female genitalia (Figures 7 and 8) are identical to those of European specimens but the moths are larger and more brightly colored. I describe this North American race as follows.

Syngrapha microgamma nearctica new race

Figures 2 and 3.

General pattern of the primaries in both sexes similar to *microgamma* except for a few minor but consistent differences. The t.p. line is usually waved but has not so pronounced a concavity below the cell. In one or two of the paratypes it is almost perfectly straight until it curves around the cell and inward to meet the costa. Both the t.p. and t.a. lines are more distinct in *nearctica*, tending to be quite sharp and silvery, or often partially suffused with reddish. Lobed silver spot always noticeably larger in the nearctic race.

Basal area of primaries light bluish-gray, confined by the t.a. line for the lower two-thirds of its length, diffusing outwardly in costal region and enveloping the orbicular. Outer area beyond the t.p. line similarly bluish-gray, with dentate subterminal marked by rather diffuse darker scaling. This pale outer area is also sharply confined in the lower two-thirds of the wing, but invades the median area opposite the reniform. Median area in lower two-thirds, except for silver lobe, entirely rich dark brown. Secondaries yellow with dark brown border as in *microgamma*.

Vestiture of head and thorax gray-brown fringed with pink or pale violaceous gray. Vestiture of abdomen straw colored, reflecting the yellowish hue of the adjacent secondaries, tinged with pink laterally and caudally in some specimens. Darker dorsal tufts on the first two segments.

Expanse: holotype 31 mm., allotype 30 mm., paratypes 28-31 mm.

Male and female genitalia identical in *microgamma* and race *nearctica*. A comparison with *montana* was made earlier in the discussion of that species, and the drawings illustrate the chief points of difference.

Holotype ♂—Sphagnum bog at Goodwood, on the Prospect Road, Halifax County, N. S., June 18, 1952.

Allotype ♀—Same locality, June 20, 1951.

Paratypes—7 ♂♂, 6 from the same locality and one from near Peggy's Cove, Halifax County, N. S., June 13–21, 1951–52.

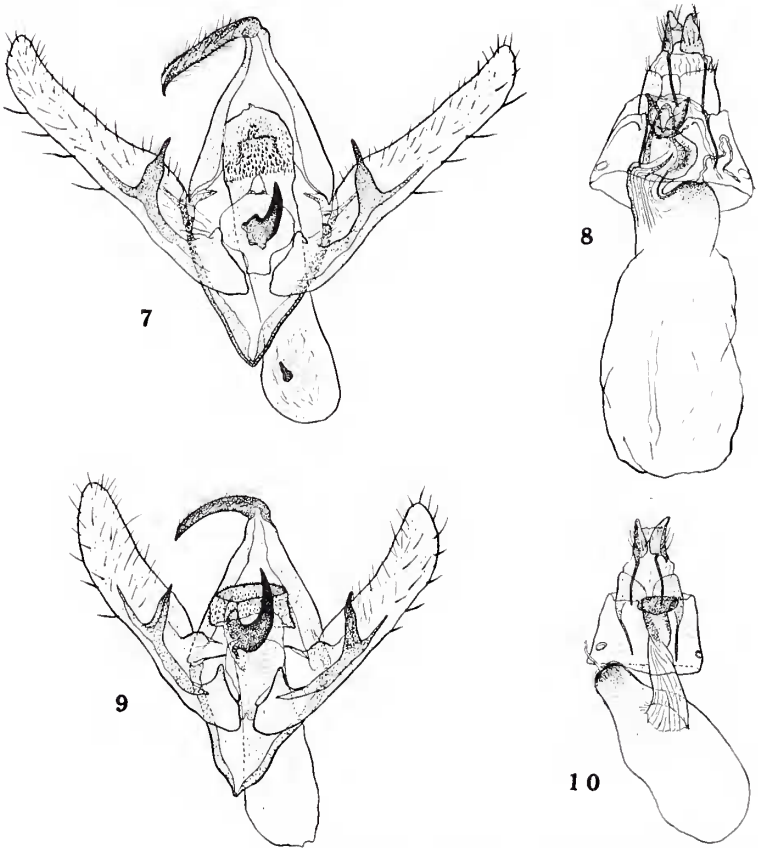


Fig. 7. Male genitalia of *Syngrapha microgamma nearctica* new race, paratype. Fig. 8. Female genitalia of *Syngrapha microgamma nearctica* new race, topotypical example too worn to be included in type series. Fig. 9. Male genitalia of *Syngrapha montana* Pack., Cascapedia Road, Gaspé, July 15, 1950 (D. C. F.). Fig. 10. Female genitalia of *Syngrapha montana* Pack., from same specimen shown in figure 4. (The male genitalia are more highly magnified.)

The holo- and allotype will be deposited in the Canadian National Collection at Ottawa; paratypes to the American Museum of Natural History, the J. G. Franclemont collection at Cornell University and the collection of the author at the Nova Scotia Museum of Science, Halifax.

I have examined the specimens of *microgamma* from western Canada mentioned by McDunnough in his Revision of the Plusiinae, and find that they agree very well with *nearctica*.

The five European specimens that have been available for comparison—two from Tilsit, Germany, June, 1942 (Figure 1), one from the Ottolengui collection without data, and two Estonian specimens in the C.N.C.—agree perfectly, and are consistently smaller and less gayly colored than the new race described. *Montana*, on the other hand, is smaller still and much darker, with less contrast between the median, basal and outer areas of the forewing.

Nearctica frequents coastal heaths and barrens, or open sphagnum bogs that are overgrown with Ericaceae. Like *moutana*, it is essentially a swift and elusive day flyer, behaving in flight much like an *Anarta*. About a dozen specimens are seen for every one captured. Although the bog where the types were taken is covered with flowering *Vaccinium* and *Kalmia* at that season, none were seen visiting flowers. It seems that both *nearctica* and *moutana* will occasionally fly at night, as two specimens of the former, as well as the Nova Scotian example of *moutana* mentioned previously, were taken at light.

I am indebted to Dr. Frederick H. Rindge of the American Museum of Natural History for the loan of material from the Ottolengui collection of Plusiinae in that institution, and to Mr. D. F. Hardwick and Dr. Eugene G. Munroe for placing at my disposal the material in the Canadian National Collection.

PUBLICATIONS RECEIVED

Hugh Roy Cullen, A story of American Opportunity, by Ed Kilman and Theon Wright. 376 pp. 6 × 9 ins., cloth bound. 1954. Prentice-Hall Inc., New York, N.Y. (Price, \$4.00)